

Product Description

The IP00C382 is a warping and edge-blending solution with a maximum 666Mpixel/sec signal processing capability. It supports 4K (up to 4096x2400) 60Hz input/output and additional format such as WQXGA (2560x1600) 120Hz. It features an embedded warp table generator that implements real-time image processing for formulated distortion correction such as H and V keystone correction and pin-cushion correction without impactation an external CPU. Edge-blending supports white peaking and results in higher performance image quality and products.

Features

Input

- 30-bit RGB / 30-bit YUV4:4:4 / 20-bit YUV4:2:2 @V-by-One®HS 4Gbps, 8-lane 1-port

Output

- 30-bit RGB / 30-bit YUV4:4:4 / 20-bit YUV4:2:2 @V-by-One®HS 4Gbps, 8-lane 1-port

Input & Output Image Size

- Horizontal sync signal 16,384 pixels (max)
- Horizontal image active area 4,096 pixels (max)

External Memory

- DDR3-SDRAM 32bit PC1600 (4G / 2G / 1G x 16) x 2

External / Internal Sync

- Output sync signal is available only with internal sync signal

Input / Output Sync / Asynchronous Behavior

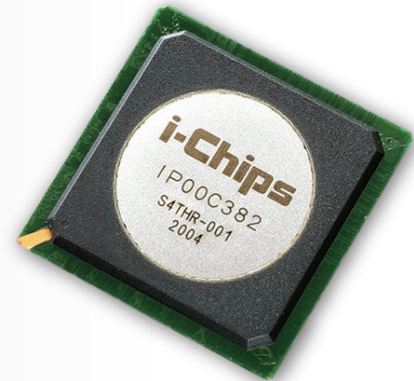
- Frame rate conversion with frame tear protection
- External force synchronization
- Genlock

Distortion Correction Mode

- RGB common distortion correction mode

Distortion Correction Method

- Coordinate correction look up table
- Embedded warp table generator (keystone correction and pin cushion correction)
- Load from external CPU or external serial flash



Distortion Correction Amount

- Up to 45 degrees (horizontal / vertical)
- Vertical shrink ratio is about x0.6 to 0.7 (about 50% of IP00C381)

Image Correction

- Edge-blending (RGB independent gamma correction, white peaking supported)
- Uniformity correction
- Mirror / flip image

Image Quality Control

- 16-bit color gamma correction tables (7 LUT available)
- Error diffusion, brightness and contrast adjustment

Bitmap OSD

- 256 colors / High color OSD (64K colors)
- Embedded font engine (65536 words)
- Blinking and semi-transparent (4 colors OSD)
- 90-degree rotation, OSD scroll
- Bitmap transfer from external serial flash

CPU Interface

- 4-wire serial

Serial Flash interface

- 2G-bit x 1 (max)

Power Supply

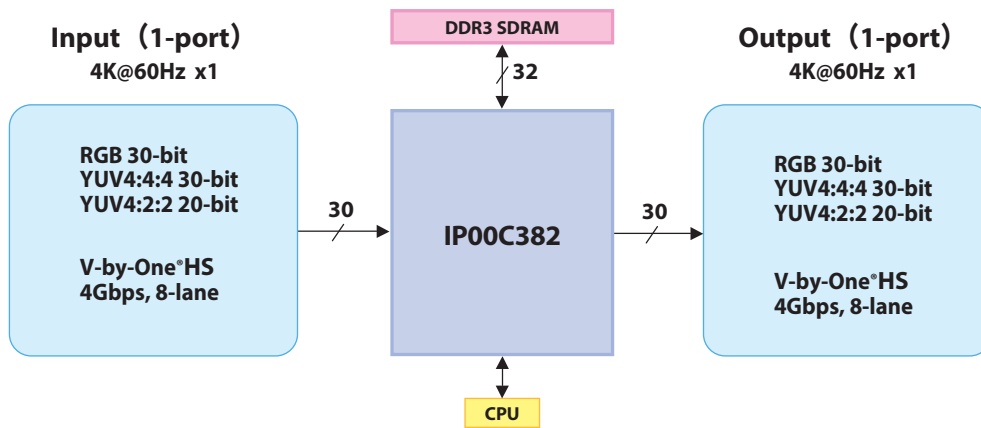
- 3.3V / 1.5V / 1.1V

Package

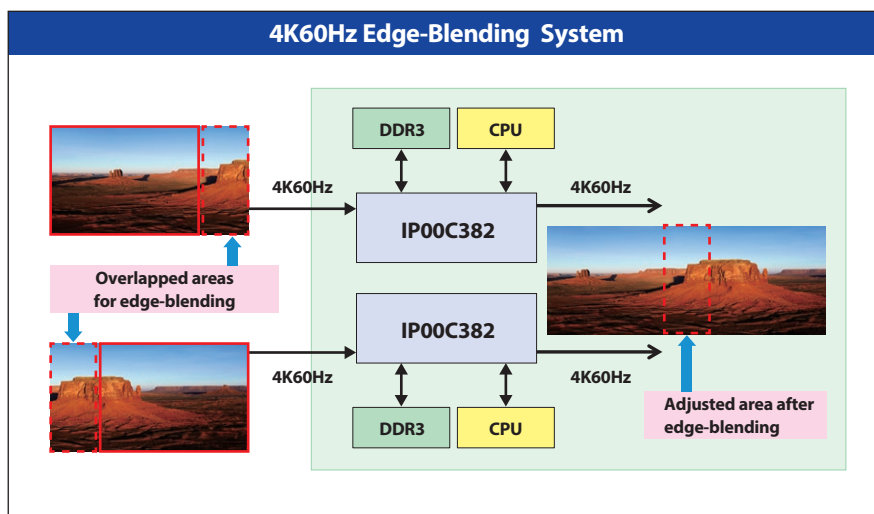
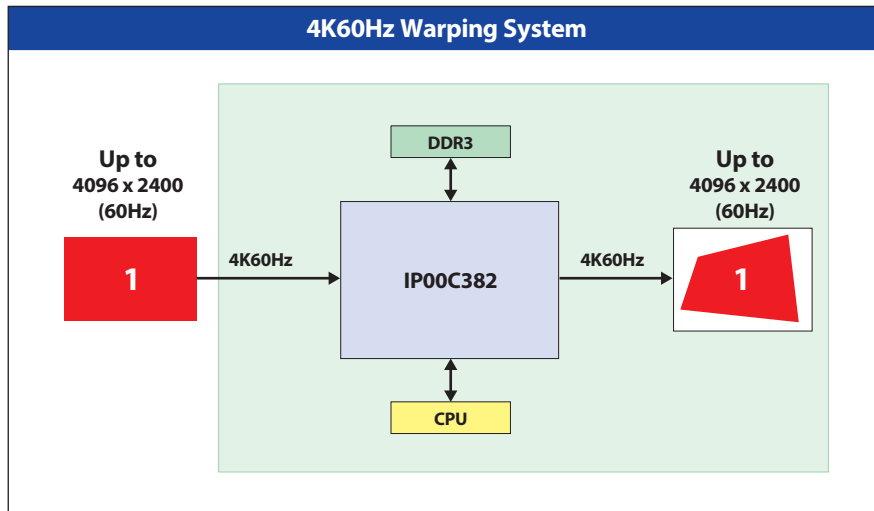
- 388-pin Plastic BGA (0.8mm pitch), 19mm x 19mm

IP00C382 4K60Hz Supported Warping/Edge-Blending LSI

Block Diagram



Application Diagrams



"V-by-One[®]" is a trademark of Thine Electronics, Inc.

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i-Chips Technology, Inc.

i-Chips Technology, Inc. • 1-2-6, Shioe Amagasaki Hyogo, 661-0976 Japan • Tel : 81-6-6492-7277

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